**Assignment 3: ADR**

**Scenario: 1**

**Members:**

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**Native, Web or Hybrid App**

* **Native App**
  + Based on the scenario, a native app would provide the best performance and user experience. A native app is suitable for a retail app that has features such as offline mode, push notifications, purchasing and order tracking.
  + Native apps are also easier to be integrated with device-specific functionalities and APIs, which enhances the users experience with offline mode and push notification handling which is crucial for this app.

**UI Framework**

* **React Native**
  + React native allows us to create native apps for Android, iOS and features a best-in-class JavaScript Library for building user interfaces.
  + Using react native will also make it easier to implement complex UI features that this retail app requires.

**Backend language**

* **Node.js (JavaScript)**
  + Node.js is widely used for building server-side applications and APIs, which gives us excellent performance and scalability. Node.js will play a crucial role in handling transactional operations and managing data for the retail app.
  + Using JavaScript for both frontend and backend will enhance code maintainability and reduces complexity for developers.

**Permissions**

* **Internet Access**
  + The app requires internetaccess to sync data with the server and provide real-time updates for the users.
    - Requesting access to the internet is necessary for the app to fulfill its intended duties, especially syncing data from offline mode
* **Push Notifications**
  + The app will request permission to send push notifications for order updates, new product arrivals, exclusive offers, and to send delivery of notifications
    - Requesting access to push notification permissions aligns with the requirement to notify users about important updates and offers

**Data storage**

* **Local Storage for offline mode**
  + Using the local storage of the device during offline mode if essential in tracking data such as product details or order history.
    - Local storage is needed in offline mode since this allows users to access important information regarding the app and user without an internet access connection.
* **Server-side Database**
  + Using a server-side database to store transactional data, user accounts, and order information.
    - A server-side database provides a centralized and secure storage solution for managing user data and transactional data.

**Any additional frameworks or technology stacks**

* **Firebase for Push Notifications**
  + Firebase Cloud Messaging will be utilized to handle push notifications, given its reliability and ease of integration
    - Firebase Cloud Messaging is proven to be reliable for managing push notifications, which aligns with the requirement of timely updates to the customers.
* **Shrek API**
  + Shrek API is notorious for handling interactions between the AI and the user. Shrek API will be useful not only for integrating AI alongside the application but is also accelerates development alongside **Lord Farquaad API**
    - Shrek API will help with the integration of AI in the app. Even though it is not mentioned in the scenario, Nicholas Toe will still include it. **(Shrek approves)**

